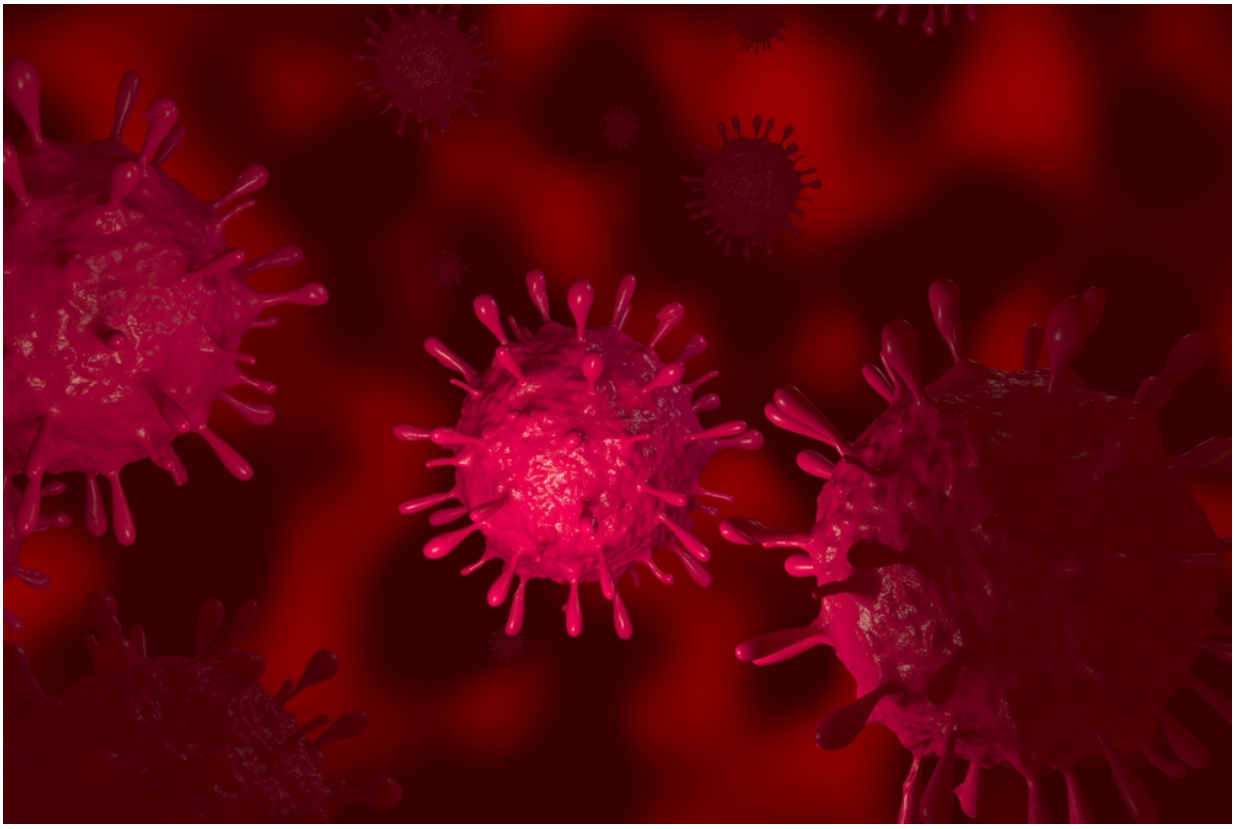
MedicalXpress

Researchers may be one step closer to curing HIV

May 17 2016



Credit: KU Leuven

Scientists from KU Leuven, Belgium, present a new therapeutic approach that may make it possible for HIV patients to (temporarily) stop their medication. The findings shed a completely new light on the

search for a cure for HIV.

Existing antiviral inhibitors can suppress the replication of the HIV virus, but they cannot fully remove it from the human body. As a result, HIV patients have to take inhibitors for the rest of their lives. HIV researchers worldwide are currently developing new methods to eliminate the virus.

The HIV virus uses the cellular protein LEDGF as a kind of grappling-hook to attach itself to specific locations in our genetic material. Once its DNA is inside the cells of its human host, the virus can multiply and make the patient sick.

In 2010, the research team of KU Leuven Professor Zeger Debyser developed inhibitors—called LEDGINs—that block the 'grappling-hook'. As a result, the virus cannot attach itself to its preferred locations in our DNA.

Doctoral student Lenard Vranckx has now discovered that, when treated with LEDGINs, the HIV virus settles elsewhere in our DNA, in locations where it cannot multiply. Lenard Vranckx explains: "We've shown that a treatment with LEDGINs not only inhibits the integration of the HIV virus, but also ensures that the virus doesn't multiply once the treatment is stopped."

"This discovery paves the way for new clinical studies with LEDGINs," Professor Debyser continues. "We don't know whether this approach will lead to a final cure for HIV, but even a scenario that allows patients to stop their medication for a while is an important step in the right direction."

However, the researchers remain cautious: "We don't want to give anyone false hope. Our discovery is based on cell cultures. The findings

still need to be tested in mice and in clinical studies. That's why a potential treatment based on the discovery is still years in the future," says Professor Debyser. "But now, we already know the direction of our future research."

More information: Lenard S. Vranckx et al, LEDGIN-mediated Inhibition of Integrase–LEDGF/p75 Interaction Reduces Reactivation of Residual Latent HIV, *EBioMedicine* (2016). DOI: 10.1016/j.ebiom.2016.04.039

Provided by KU Leuven

Citation: Researchers may be one step closer to curing HIV (2016, May 17) retrieved 25 April 2024 from https://medicalxpress.com/news/2016-05-closer-hiv.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.